ATXI Exhibit 11.0 (Rev.)

ILLINOIS COMMERCE COMMISSION

DOCKET No. 12-0598

REVISED REBUTTAL TESTIMONY

OF

DENNIS D. KRAMER

Submitted On Behalf

Of

AMEREN TRANSMISSION COMPANY OF ILLINOIS

May 8, 2013

TABLE OF CONTENTS

Page No.

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I. INTRODUCTION AND WITNESS QUALIFICATIONS

Q. Please state your name, business address and present position.

A. My name is Dennis D. Kramer, and my business address is One Ameren Plaza 1901 Chouteau Avenue, St. Louis, Missouri 63103. I am currently the Director of Transmission Policy and Planning at Ameren Services Company ("AMS").

Q. Are you the same Dennis D. Kramer who sponsored direct testimony in this proceeding?

A. Yes, I am.

II. PURPOSE AND SCOPE

Q. What is the purpose of your testimony?

A. The purpose of my testimony is primarily to respond to Staff witness Mr. Greg Rockrohr, Moultrie County Property Owners ("MCPO") witness, Mr. James Dauphinais, and Dr. Magdi Ragheb. My failure to address any witnesses' testimony or position should not be construed as an endorsement of same.

Q. Are you sponsoring any exhibits in support of your rebuttal testimony?

A. Yes.

- ATXI Exhibit 11.1: System performance with Mt. Zion South substation;
- ATXI Exhibit 11.2: Details of the analysis of the impact of losing the Oreana Substation (with MCPO and IRP);
- ATXI Exhibit 11.3: MCPO and IRP cost comparisons;
- ATXI Exhibit 11.4: Potential Alternative Reliability Projects
- ATXI Exhibit 11.5: Impact on PPG and 121 substations with a Cat C event, MCPO proposal compared to with IRP in service.

III. GENERAL RESPONSE TO INTERVENERS ON NEED FOR PROJECT

Q. Generally speaking, do Staff and Interveners oppose the need for the Project?

A. Generally, with certain limited exceptions that I discuss below, Staff and Interveners do not oppose the need for the Project, and do not dispute that the Project is necessary to provide adequate, reliable, and efficient service, will address the future reliability issues described in ATXI Exhibits 2.5 through 2.18 of my direct testimony, or that the Project will promote the development of an effectively competitive electricity market that operates efficiently, is equitable to all customers, and is the overall least cost means of satisfying those objectives. As Staff witness Mr. Rockrohr explains:

> While it is possible that ATXI or AIC could construct alternative Projects to resolve specific loading and voltage issues within Illinois, the Illinois Rivers Project appears to me to be a superior approach, as it addresses needs within MISO's entire operating region: not only needs within Illinois. Since costs for the Illinois Rivers Project would be spread across the entire MISO footprint, Illinois customers would bear approximately 9% of the Project cost, whereas costs for correcting local reliability and voltage issues with separate Projects in a piecemeal fashion might be born exclusively by ratepayers within the Ameren footprint. Since

> MISO's studies demonstrate the need for an additional 345 kV line across the state even if reliability and voltage issues were separately resolved, the aggregate cost of all the separate Projects plus a 345 kV transmission line across the state are likely to be higher. Therefore, resolving the reliability and voltage issues as part of the larger Illinois Rivers Project would be beneficial to electric customers in Illinois, due to the cost sharing methodology for MISO Multi-Value Projects. … I have no reason to question MISO's conclusion that an additional 345 kV line across central Illinois is necessary and the least cost means to satisfy the service needs of not only electric utility customers in Illinois, but also electric utility customers in the entire MISO footprint.

(ICC Staff Ex. 1.0R, pp. 6-7.)

Mr. Webb, testifying on behalf of the Midwest Independent Transmission System Operator, Inc. ("MISO"), explains that the Project is part of the regional Multi Value Project ("MVP") Portfolio of projects that "provides additional connectivity across the grid, reducing congestion and enabling access to a broader array of resources by load in Illinois and elsewhere." Mr. Michael Goggin, testifying on behalf of Wind on the Wires, explains that the Project provides Illinois consumers with greater access to wind energy resources, and this lowers consumers' electricity costs by facilitating an effectively competitive electricity market that operates efficiently. He further explains the regional benefits of high-voltage transmission projects such as the Project are inherently equitably allocated to consumers. Even Mr. Dauphinais (MCPO Ex. 1.0, p. 65) appears to accept the "Illinois-wide and regional benefits" of the Project. And as I explain in responses to Dr. Ragheb and two other Interveners below, there is no basis for the concerns regarding the need for the Project raised by those witnesses.

Q. Are there any areas where the need for any of the specific facilities proposed for the Project has been questioned?

A. Yes. Staff witness Mr. Rockrohr and Mr. Dauphinais raise questions regarding the need for and location of ATXI's proposed Mt. Zion substation and the Pana to Mt. Zion and Mt. Zion to Kansas 345 kV transmission lines. In raising these questions, they do not contest the need for the Project as a whole or that there is a need to address the future reliability issues in the Decatur area, but rather only specific aspects of the Pana to Mt. Zion to Kansas portions of it.

As I discuss below, Mr. Rockrohr's suggestion was to relocate the Mt. Zion substation farther south and supply it from a hypothetical 345 kV line that would connect the Pana and Kansas substations. Ameren Transmission Company of Illinois ("ATXI") conducted an analysis of this proposal that clearly indicates that relocating the substation as suggested by Mr. Rockrohr will not adequately address the future reliability issues in the Decatur area (see ATXI Exhibit 11.1).

Mr. Dauphinais' focus is exclusively upon attempting to prove that a new 345 kV transmission line does not need be constructed across Moultrie County. Although he admits that ATXI's proposed Project, with the Mt. Zion substation, can address the identified future reliability concerns in the Decatur area, he attempts to explain how the future reliability issues in the Decatur area can be addressed by the installation of other equipment without a new Mt. Zion substation as proposed by the Project. He also briefly discusses the option of routing the Mt. Zion to Kansas 345 kV transmission line around Moultrie County or even using a single new 345 kV transmission line from Pana substation to serve the new Mt. Zion substation. I will discuss below my concerns with Mr. Dauphinais' attempts to explain-away the need for the new Mt. Zion substation and substitute his proposed alternative or the other options he discusses.

In addition, Dr. Ragheb questions the Project from multiple viewpoints that are based upon information that is generally inapplicable to the MISO Transmission Expansion Plan ("MTEP") development process, the selection of the MVP Portfolio, or the Project.

IV. RESPONSE TO STAFF WITNESS, MR. ROCKROHR

Q. At lines 38 through 48 of Mr. Rockrohr's direct testimony he concludes that many of the benefits ATXI asserts the Project will provide require AIC to connect its system to ATXI's proposed 345 kV transmission line. Do you agree?

A. Yes, although the need for connections is not limited to Ameren Illinois Company d/b/a Ameren Illinois ("AIC") and the same could be said for any significant regional transmission project. As I stated in my direct testimony, "Due to the integrated nature of the transmission system, additional lines, substations and facilities will need to be constructed, upgraded or relocated by other entities both within and outside the State of Illinois," including AIC. The full set of benefits provided by the Project will be achieved when it is fully completed and all connections with other entities are achieved. However, as each segment of the Project is completed and integrated into the 138 kV system, some level of reliability benefits will be provided.

Q. Mr. Rockrohr states that he is not aware of any commitment on the part of AIC to make the connections. What is his concern?

A. Mr. Rockrohr states that most of the Project benefits for Illinois will result only if the Project is fully integrated with AIC's transmission system. However, he notes that ATXI has excluded the connections with AIC's existing 138 kV transmission system from the Project. He testifies that ATXI proposes several substations to facilitate these connections but there's no

indication if or when AIC intends to use the transformers. He therefore concludes that it is "vital that ATXI demonstrate" to the Commission that those 138 kV connections will occur. Otherwise, he concludes that the 345 / 138 kV transformers should be excluded from the certificate of public convenience and necessity ("CPCN").

Q. What is your response to Mr. Rockrohr's concern?

A. This issue is also addressed by ATXI witnesses, Ms. Maureen A. Borkowski and Mr. Jeffrey V. Hackman. However, from a planning perspective, I believe it is unwarranted. All of the above listed interconnections between ATXI's Project and the AIC 138 kV system are part of the scope of MISO MVPs # 9, 10, and 11. The MVP portfolio was approved in December 2011 by the MISO Board of Directors. As MISO witness, Mr. Webb also explains, under the MISO Transmission Owners Agreement (MISO Rate Schedule 1), Owners have an obligation to construct approved projects. Therefore, as both ATXI and AIC have an obligation to connect the respective facilities comprising the MVPs, it is reasonable and appropriate to assume that the connections to proposed ATXI substations in the MVP portfolio will be constructed. In addition, AIC's system will receive a significant number of reliability and efficiency benefits from the Project, which can only be realized by connecting the existing AIC system to the ATXI proposed substations. AIC would need to invest in various other projects to maintain reliable service in the absence of its system connections with the Illinois Rivers project. These projects are identified in ATXI Exhibit 11.4

Q. What are Mr. Rockrohr's concerns regarding the location and connection to the Mt. Zion substation?

A. At pages 39 and 40 of his direct testimony, he states that it is his opinion that it is more economical for AIC to extend two 138 kV lines to a Mt. Zion substation that has been relocated southward (on a proposed 345 kV line that connects Pana substation to Kansas substation) than for ATXI to extend two 345 kV lines north to supply the Mt. Zion substation at the location proposed by ATXI.

Q. Did you analyze his suggestion?

A. Yes. Based upon Mr. Rockrohr's concerns, ATXI performed a preliminary analysis to determine if the proposed relocation of the Mt. Zion substation farther south along a hypothetical Pana substation to Kansas substation 345 kV line, coupled with two 138 kV lines extending northward to the Mt. Zion PPG substation, is a viable option to address the future reliability issues in the Decatur area. ATXI examined the system performance in response to a contingency outage of: (1) both Oreana 345/138 kV transformers, or (2) both Oreana – ADM North 138 kV lines if the Mt. Zion substation was relocated as Staff suggested. The analysis used the MCPO hypothetical route MCPO-PK as described in MCPO Exhibit 1.1, page 9, and assumed a new 345/138 kV substation (Mt. Zion South substation) would be constructed approximately 10 miles east of the Pana substation. The MCPO-supplied information indicates the total MCPO-PK line length is 76.4 miles and therefore the distance from the Mt. Zion South substation to Kansas is assumed to be 66.4 miles. Based upon publically available data the straight line distance from the hypothetical Mt. Zion South substation to the existing Mt. Zion PPG substation would be approximately 30 miles. The actual 138 kV line lengths would almost certainly be greater than

30 miles when the actual route is determined, but in order to maximize the ability of the Mt. Zion South substation to potentially address the reliability issues, ATXI assumed each of the two 138 kV lines would only be 30 miles long.

Q. What did the analysis show?

A. The analysis indicated that the Mt. Zion South substation with two longer 138 kV lines connected to the Mt. Zion PPG substation did not address the future Decatur reliability concerns as well as the ATXI Project with the Mt. Zion substation located where ATXI had proposed. Due to the increased impedance of the long 138 kV lines, the voltage support provided by the Mt. Zion South substation is inadequate to return the post contingency voltages after either contingency event above the 95% threshold. See attached ATXI Exhibit 11.1 for detailed information on the system performance post contingency with the entire Project in service except with the Mt. Zion South substation taking the place of the Mt. Zion substation. The Project does provide sufficient voltage support to maintain post contingency voltages above the 95% threshold as documented by ATXI Exhibits 2.13 and 2.14. Additionally, in order to maintain consistency with previous ATXI studies, the analysis did not include the effects of the ADM load addition in the Decatur area. The voltage issues would become even more severe than indicated when the additional ADM load is served. For these reasons, constructing the Pana to Kansas direct line and relocating the Mt. Zion substation farther south as suggested by Mr. Rockrohr is not a viable solution to the future reliability issues in the Decatur area.

Q. Are there other reasons why Mr. Rockrohr's suggestions are problematic?

A. Yes. As discussed in my direct testimony, ATXI sought to maximize the current and potential future value provided by the MVP Portfolio and the Project. An example of this effort

is the planned location of the Mt. Zion substation on the southern edge of the Decatur area. If future load growth or system conditions warrant the development of a 345 kV "ring" around the greater Decatur area, having this substation at the planned location will reduce the future cost of integrating the substation into the "ring". While ATXI does not currently have plans to construct a 345 kV "ring" around the Decatur area, when performing its system planning function, AMS tries to arrange the transmission system electrically and physically to maximize its flexibility to respond to potential future needs.

In addition, relocating the Mt. Zion substation farther south and connecting to a hypothetical Pana to Kansas 345 kV line would result in a higher total mileage of transmission lines that would need to be constructed, with a corresponding higher cost. The Staff proposal would cost approximately $287.6 million, using the cost estimates provide by MCPO for their Pana to Kansas route combined with the cost of the longer 138 kV lines, while the ATXI proposal, using its recommended rebuttal routes into Mt. Zion combined with much shorter 138 kV lines, would cost approximately $233.8 million. This will probably also result in more property owners being impacted by the longer transmission lines.

Q. Mr. Rockrohr also recommends that should the Commission decide to grant ATXI a CPCN for its proposed 345 kV line, the Commission exclude the Pana to Mt. Zion and the Mt. Zion to Kansas segments from the CPCN so a separate proceeding can occur to determine the best routing between Pana and Kansas. What is your response?

A. I do not believe breaking up the project approval in this manner is appropriate. The Illinois Rivers Project is an integral part of the transmission upgrades needed to provide the full set of benefits from the MVP portfolio under multiple future scenarios, including access to

renewable energy, promoting the development of an effectively competitive electricity market and providing local reliability benefits. All of the line segments that compose the Illinois Rivers Project, including Mt. Zion, were examined and analyzed simultaneously during the MTEP process.

Further, the sequencing of the construction of the Project line segments is very important. Consideration in a separate docket would cause delay for the Pana to Mt. Zion 345 kV line, which could place the 2016 in-service date for this part of the Project at risk. This in turn could jeopardize the timely achievement of the reliability and other benefits and leave the Decatur area at risk for a greater period of time. Without proper sequencing of in-service dates, temporary system overloads could be created which would impact system operations. Additionally, proper sequencing will help reduce the creation of system congestion that could potentially decrease the economic benefits of the energy market. Therefore MISO and AMS have determined the preferred construction sequence, as shown on ATXI Exhibit 2.4, will help minimize the disruption of the transmission system during construction and commissioning of the Project. The Pana to Mt. Zion line segment needed in-service date is 2016, which is in the first year of the overall Project construction schedule.

Q. What would happen if the Commission directed ATXI to implement a specific modified system configuration that is electrically different than what was approved in the MTEP11 in December 2011?

A. ATXI and MISO would need to examine and analyze the impact of the modified system configuration on the rest of the transmission system (as also discussed by Mr. Webb). The analysis is needed to determine if the modified system configuration creates new reliability or

congestion issues, will adequately address the future reliability issues in the Decatur area, or negatively impacts the ability of the unmodified portions of the Project or the rest of the MVP Portfolio to provide the benefits for which they were designed. If the analysis determines that the modified system configuration negatively impacts the ability of the Project or the rest of the MVP Portfolio to provide the benefits for which it was designed, additional projects would probably be needed to provide the needed benefits to the Ameren Illinois area customers or the MISO footprint. As stated in Mr. Webb's testimony, if these system reinforcements are classified as Baseline Reliability Projects, their cost would be paid solely by the Ameren Illinois area customers, if the projects are located in the Ameren Pricing Zone. This analysis would require several months to complete and would delay implementing the needed system reinforcements and the delivery of the benefits to the Ameren Illinois area customers in the Decatur area.

Q. What would happen if the Commission directed ATXI to consider several alternative electrical configurations to address the future reliability issues in the Decatur area while also providing the benefits to the Ameren Illinois area customers of access to renewable energy and lower cost energy?

A. ATXI would also need to work with MISO to identify and evaluate the potential solutions. The analysis would also require several months to complete and result in delays in implementing the needed system reinforcements. There is no assurance that the results of the analysis would identify the Staff proposal or the MCPO proposed alternative as the preferred solution. As shown in ATXI Exhibit 11.4, if the Mt. Zion substation was not constructed ATXI would potentially require the following projects to address the future Decatur area reliability

issues: a Pana substation to Mt. Zion substation 345 kV line, new Mt. Zion substation with 345/138 kV transformer and associated substation equipment, and a Mt. Zion substation to Oreana substation 345 kV line and associated Oreana substation equipment. As stated in Mr. Webb's testimony, these system reinforcements would be classified as Baseline Reliability Projects and their cost would be paid solely by the Ameren Illinois area customers.

Therefore it is vitally important that the Project be examined holistically and not in a piecemeal manner in order to insure the full set of benefits are obtained in the necessary timeframe at the lowest total cost to the Ameren Illinois area customers.

V. RESPONSE TO MCPO WITNESS, MR. DAUPHINAIS

Q. What does Mr. Dauphinais claim about the electric planning of the Project?

A. He concludes that ATXI's proposed Mt. Zion substation is not needed. He conducts a limited analysis that he contends shows that the Mt. Zion substation could be replaced by other system reinforcements in the Decatur area, and that as a result the Transmission Line could be routed directly from Pana to Kansas.

Q. What is your general response?

A. I would begin by pointing out that Mr. Dauphinais does not dispute the need to address the future reliability issues that ATXI has identified in the Decatur area. And he concedes that the Project as designed can address these concerns. It is my opinion his conclusion that there are alternatives is primarily driven by a need to find a planning rationale to eliminate any new transmission line from traversing Moultrie County and potentially impacting the members of the MCPO. Also, he appears to discount the importance of the Mt. Zion substation to the overall Project. He states on page 46 of his direct testimony that: "ATXI clarified the specific

powerflow analysis and reliability concerns it believes justify the need for the Mt. Zion substation portion of the IRP". ATXI does not believe that the Mt. Zion substation portion of the Project is justified solely based upon its ability to address the future reliability issues in the Decatur area. The Project (and the Mt. Zion substation) is justified based upon the total benefits provided under a variety of different future scenarios and not simply due to its ability to address the future Decatur area reliability issues.

Q. What are the reliability and voltage concerns in the Decatur area the Project is intended to address?

A. As I discussed in my direct testimony, the Project will resolve the following more major transmission equipment overload Category C violations that were found to occur in the Decatur area during 2021 summer peak load levels:

- Oreana transformer #1 (ATXI Exhibit 2.11)
- Oreana transformer #2 (ATXI Exhibit 2.11)
- Oreana-ADM North 138 kV line (ATXI Exhibit 2.11)
- ADM North-Caterpillar 138 kV line (ATXI Exhibit 2.11)
- Caterpillar-N 27th Street 138 kV line (ATXI Exhibit 2.11)
- Rising 345/138 kV transformer (ATXI Exhibit 2.11)

Additionally, the following Category C events were identified as causing voltage problems in the Decatur area during 2021 summer peak load levels:

- Outage of Oreana 345/138 kV transformer #1 and Oreana 345/138 kV 638 transformer #2; (ATXI Exhibit 2.13)
- Outage of Oreana-ADM N 138 kV line #1610 and Oreana-ADM N 138 kV line 640 #1606; (ATXI Exhibit 2.14).

Q. At pages 47 through 49 of his direct testimony, Mr. Dauphinais conducts an analysis of ATXI's identified post-event transmission overloads in the Decatur area. What is his conclusion?

A. Mr. Dauphinais concludes the Project as a whole reasonably addresses the identified transmission overloads. However, he states that the Project does not show that the proposed Mt. Zion substation needs to be part of the Project in order for the Project to address the identified transmission overloads. He concludes that with the Project in service but without the proposed Mt. Zion substation, the transmission element overloads are still fully resolved.

Q. What is your response to his conclusion?

A. Mr. Dauphinais discounts the importance of the benefits the Mt. Zion substation provides as a part of the whole Illinois Rivers Project. He agrees that with the entire Project in service, the previously listed contingency events are satisfactorily addressed. As stated in my testimony, however, the MISO MVP projects (of which the Mt. Zion substation is a portion) were developed as a portfolio of projects to provide multiple benefits including: (1) access to renewable energy, (2) access to lower cost energy, and (3) address local reliability issues. These benefits extend beyond Decatur and are not captured in a piecemeal analysis like Mr. Dauphinais'. The fact that in Mr. Dauphinais' opinion the Mt. Zion substation is not needed to address the above particular transmission system contingency event does not indicate that the Mt. Zion substation does not provide needed benefits, such as addressing other Decatur area reliability issues like the low voltage issue, as well as Category C and Category D contingency events which I describe later in my testimony. It should be noted that Mr. Dauphinais' analysis

confirmed the Sidney-Rising portion of the Project is necessary to address the specific transmission system contingency event he examined.

Q. At pages 50 through 52 of Mr. Dauphinais' direct testimony, he conducts an analysis of low-voltage issues in the Decatur area. What is his conclusion?

A. He concludes that the future low voltage issues in the Decatur area require system reinforcements and he confirmed ATXI's analysis that the Project with the Mt. Zion substation will address the low-voltage issue. However, he further concludes that this does not necessarily demonstrate that ATXI's proposed Mt. Zion substation is necessary to address the low voltage issue.

Q. How does Mr. Dauphinais propose to address the low voltage issue in the Decatur area?

A. He states at page 52 of his direct testimony that his analysis shows that the non-Mt. Zion portions of the Project cannot address the low-voltage issues unless other reinforcements are also added, and ATXI agrees with this portion of his analysis. But he concludes that other alternative transmission reinforcement in the Decatur area may be sufficient to adequately address the low-voltage issues in place of the proposed Mt. Zion substation. Specifically, he describes an alternative of adding a third Oreana 345/138 kV transformer and a third Oreana to ADM North 138 kV transmission line. Mr. Dauphinais asserts that this alternative set of reinforcements (Oreana 345/138 kV Reinforcement), coupled with other reinforcements including installation of a power flow control reactor, would be sufficient to address the low voltage issue. He further asserts (at page 54 of his direct testimony) that his proposed reinforcements actually yield higher

post-event 138 kV substation voltages in the Decatur area as compared to ATXI's Mt. Zion substation alternative.

Q. What is your response to Mr. Dauphinais' proposed reinforcement alternative for the Decatur low-voltage issue?

A. Mr. Dauphinais' proposed "Oreana 345/138 kV Reinforcement" and installation of a power flow control reactor is a potential option that may address the specific future low-voltage issues that were identified in ATXI's preliminary analysis of the Decatur area. Based upon his testimony, however, ATXI has concerns with his proposed alternative method of providing the needed reinforcement in the Decatur area. Mr. Dauphinais is literally "putting all the eggs in one basket" by recommending a transmission system configuration with three parallel transformers in the Oreana substation (two existing and one proposed new transformer) and three parallel 138 kV lines (two existing and one proposed new 138 kV line) from the Oreana substation to the ADM North substation. The implementation of MCPO's proposed Oreana 345/138 kV Reinforcement and installation of a power flow reactor as described by Mr. Dauphinais will significantly increase the likelihood of voltage collapse in Decatur and the loss of approximately 700 MW of load (based upon the Ameren load forecast plus the expected additional ADM load increase) for the loss of the Oreana substation when compared to the Project. The three 138 kV line configuration, as proposed by Mr. Dauphinais, would have these lines located within a few miles of each other, with a higher potential coincident exposure to major weather events and possible multiple outages. Details of the analysis of the impact of losing the Oreana substation is shown in ATXI Exhibit 11.2. Implementing the Project would eliminate this risk by providing a separate 345 kV supply to the Decatur area. AMS would not consider accepting this additional

risk of large loss of load as being consistent with Good Utility Practice, when the same reliability benefits can be obtained without this additional risk by implementing the Mt. Zion substation and Pana to Mt. Zion and Mt. Zion to Kansas portions of the Project, and at a lower cost to Ameren Illinois area customers as discussed below.

Q. What is your response to Mr. Dauphinais' assertion that his proposed reinforcements actually yield higher post-event 138 kV substation voltages in the Decatur area as compared to ATXI's proposed Mt. Zion substation?

A. Mr. Dauphinais' claim is limited to the Decatur low-voltage issue caused by either of the following two Category C events:

- Outage of Oreana 345/138 kV transformer #1 and Oreana 345/138 kV 638 transformer #2; (ATXI Exhibit 2.13)
- Outage of Oreana-ADM N 138 kV line #1610 and Oreana-ADM N 138 kV line 640 #1606; (ATXI Exhibit 2.14).

For both of these contingency events, the Project and Mr. Dauphinais' alternative both provide voltages above the 95% level in the Decatur area substations which meets the ATXI requirements. As described above, there are additional Contingency events for which Mr. Dauphinais' proposed alterative is not a viable solution.

Q. What is Mr. Dauphinais' position on how much his proposed alternative would cost compared to the portion of the Project that he proposes to eliminate?

A. ATXI examined his testimony and used the cost estimates he provided for his proposed alternative. Using Mr. Dauphinais' data (MCPO Ex. 1.0, p. 8, Table), ATXI calculated that the estimated total cost for his proposed alternative would be $202 million. ATXI then performed a cost comparison to the portion of the ATXI Project that Mr. Dauphinais states should be

eliminated, again using the cost information contained in his testimony. Using Mr. Dauphinais' data, ATXI calculated that the estimated total cost for the portion of the Project that he proposes to eliminate, plus two 138 kV connector lines, is $251.6 million. See ATXI Exhibit 11.3 for the components of the calculation and the data sources.

Q. This seems like a lower cost. Is it?

A. No, not to Ameren Illinois area customers. It is important to remember that the Project is an MVP and therefore receives special regional cost allocation treatment, as mentioned by Mr. Rockrohr in his direct testimony. The total cost of the project is not directly indicative of the impact on the Ameren Illinois area customer's bill.

Q. Please explain the cost allocation treatments that would apply to the Project and Mr. Dauphinais' proposed alternative.

A. The Project receives the MVP cost allocation treatment, and therefore the Ameren Illinois area customers will pay for approximately 9% of the total project cost. This means that even though the Mt. Zion substation, Pana to Mt. Zion line, Mt. Zion to Kansas line, and two 138 kV connector lines to the Mt. Zion PPG substation cost approximately $251.6 million, the Ameren Illinois area customers will only pay approximately $22.6 million of this cost. By comparison, as stated in Mr. Webb's testimony, the alternative reinforcements proposed by Mr. Dauphinais could be categorized as Baseline Reliability Projects by MISO. Therefore 100% of these project costs could be allocated solely to Ameren Illinois area customers. This means the Ameren Illinois area customers could pay up to the full $202 million cost for the proposed alternative reinforcement. The analysis clearly shows that implementing Mr. Dauphinais' proposed alternative reinforcement will not result in any savings for the Ameren Illinois area customers,

and in fact will increase the total amount they will pay by up to $179.4 million. This additional cost will not result in any additional benefits to the Ameren Illinois area customers.

Q. Does Mr. Dauphinais offer any other reinforcement alternatives?

A. No, he states on page 61 of his direct testimony that he did not identify any other possible Decatur area 345/138 kV alternatives to ATXI's proposed Mt. Zion substation. He does however, on pages 71 and 72 of his direct testimony, briefly describe alternative routes for the Pana to Mt. Zion 345 kV line and the Mt. Zion to Kansas 345 kV line which almost completely avoid Moultrie County.

Q. Did Mr. Dauphinais conduct power flow modeling for forecasted 2021 summer peak load conditions?

A. Yes. He states on page 62 of his direct testimony that his analyses concluded that some low-voltage issues did appear in his modeling that did not appear for the ATXI powerflow modeling. However, he believes that this is because the ATXI powerflow models do not reflect a major change to the configuration of the transmission facilities serving ADM substations. He asserts that these issues are addressed by the forthcoming transmission reconfiguration for the substation serving ADM.

Q. Do you agree with this conclusion?

A. Based upon the information MCPO provided the reconfiguration of the ADM substations resolves the low voltage issues that he identified.

However, ATXI's analysis of the MCPO-provided information has identified an additional Category C reliability concern that the MCPO proposal does not address. With the

MCPO proposal and the ADM reconfigurations in place, the concurrent outage of the 138 kV lines ADM North-Mt. Zion 121 and PANN-R51D-1462 (or PPG-Route 51 tap) will result in the loss of approximately 30 MW of load that is serviced from the Mt. Zion 121 and PPG substations, due to the loss of both supplies to these substations. ATXI Exhibit 11.5 demonstrates the impact of these concurrent outages with MCPO's proposal modeled and then the same outages with the Project including the Mt. Zion 345/138 kV substation in service.

With the Project and the Mt. Zion 345/138 kV substation in service, the load served by these two substations would have a supply independent of the two lines listed previously. Therefore the load will continue to be reliably served if this contingency occurs when the Project and the Mt. Zion 345/138 kV substation is in service. This is an additional reliability benefit of the Project that is not provided by the MCPO alternative.

Q. What is Mr. Dauphinais' conclusion regarding the effect of his alternative reinforcement proposal on the broader estimated Illinois and regional benefits of the Project and the MISO MVP portfolio?

A. On page 65 of his direct testimony, Mr. Dauphinais identifies four main benefits of the Project and the MISO MVP portfolio: (1) Reliability issues identified by MISO that are addressed by the Project and the remainder of the MISO MVP portfolio; (2) Reduction in transmission losses; (3) Reduction in transmission congestion; and (4) Greater access to sources of renewable power (wind generation in particular). He concludes that replacing the proposed Mt. Zion substation with his reinforcements will not adversely affect the achievement of any of these estimated benefits.

Q. What does he base his conclusion on regarding achievement of reliability benefits?

A. Mr. Dauphinais bases his conclusion on a review of a number of specific reliability issues identified by MISO. He concludes that the replacement of the Mt. Zion substation with his proposed alternative enforcement will not change the ability of the Project or the rest of the MISO MVP Portfolio to address these events and constraints.

Q. Do you agree?

A. Mr. Dauphinais' analysis is primarily focused upon the specific future reliability issues identified in ATXI Exhibits 2.10, 2.11, 2.13 and 2.14. His proposed alternative may be a potential solution to those specific future reliability issues that ATXI's preliminary analysis had identified. However, as discussed below, his solution changes the electrical configuration of the Project and he does not demonstrate his proposed solution delivers the full benefits of the MISO MVP Portfolio over a wide range of potential future scenarios.

Q. What is Mr. Dauphinais' position on transmission line losses?

A. With regard to transmission line losses, he states that the replacement of his Oreana alternative reinforcement reduces transmission losses further.

Q. Do you agree?

A. Transmission system losses vary throughout the year and are driven by energy flows through the transmission system, transmission system topology, impedance of the transmission elements, specific assumed generation dispatch and the amount of system load. Mr. Dauphinais' analysis is a snapshot assuming a set of system conditions, which estimated that his proposed alternative would reduce losses by 1.1 MW compared to the Mt. Zion portion of the Project.

This relative difference in the losses between the MCPO proposal and the Project is not significant when compared to the 290-300 MW of losses calculated in the Ameren Illinois area in the summer peak model. This small loss reduction is a minor benefit when compared to the increased total cost to the Ameren Illinois area customers as a whole and the increased risk that the MCPO proposal presents to the Decatur area load as I described previously in this testimony.

Q. What is Mr. Dauphinais' conclusion regarding transmission congestion and renewable power access benefits?

A. He stated page 67 of his direct testimony that his analysis shows the replacement is feasible and does not introduce any new transmission constraints. Also Mr. Dauphinais states the replacement does not change the overall 345 KV configuration of the Project and the MISO MVP portfolio.

Q. Do you agree?

A. No, because of the limitations in Mr. Dauphinais' analysis. His first argument is that his alternative does not introduce any new transmission constraints and thereby increase system congestion. His analysis supporting his claim is limited to two snapshots (peak load and shoulder load levels) of system conditions and not a complete analysis. A complete analysis, which examines a full year of system operation using a generation production costing model, such as PROMOD or a similar tool, is needed to fully determine the impact of his alternative on the system. The claim that this limited snapshot analysis of his alternative did not cause additional congestion does not mean his alternative will not increase system congestion throughout the rest of the year. That is best determined by performing a generation production costing analysis which examines all 8760 hours in a year to determine the congestion on the

system. Generation production costing analysis was performed by MISO in the development of the MVP Portfolio and was one of the key factors in the selection of the projects which compose the MVP portfolio.

Mr. Dauphnais' second argument is that the proposed alternative does not change the overall 345 kV configuration of the IRP and the remainder of the MISO MVP Portfolio. This is simply not true. At a minimum, the addition of a Mt. Zion substation as designed in the Project will provide the ability to sectionalize the 345 kV system and provide redundant support to the Decatur area via the connection with Pana substation to the southwest and Kansas substation to the east. Mr. Dauphinais' proposed alternative does not provide an additional 345 kV source to the Decatur area.

Q. Has the alternative proposed by Mr. Dauphinais been examined in a manner similar to the Project to verify it is a viable alternative under various conditions?

A. No. The analysis performed by Mr. Dauphinais is not nearly as rigorous as the analysis that was performed on the Project during its development.

Q. Please explain the differences.

A. The MVP Portfolio was developed through the MTEP process and therefore has been tested against various potential future scenarios and verified that it will provide the needed benefits and meet the needs of the region under a wide range of possible economic conditions, generation resource options and load growth rates. I discussed this analysis process on pages 12 through 14 of my direct testimony. Mr. Dauphinais has not performed a similar analysis and therefore his proposed alternative does not have the same level of certainty that it will be an adequate substitute for the Mt. Zion substation under a variety of potential future scenarios.

Q. Why is this important?

A. There is uncertainty about future economic conditions, mix of generation resources, load growth patterns, and public policies. The goal of the MTEP development process is to identify transmission plans that provide optimum value with the least potential for future regrets. This is achieved by using an array of future scenarios to demonstrate the transmission plan will provide value under a wide range of situations. The MVP Portfolio was developed using an array of future scenarios and therefore there is a very high level of certainty that the Project will provide the needed benefits in the future regardless of what conditions may actually occur. The alternative Mr. Dauphinais proposes has not been tested to verify that it will provide the needed benefits under various future conditions. Therefore there is a greater risk that the alternative that Mr. Dauphinais proposes will not provide the needed benefits when compared to the Project. If in the future Mr. Dauphinais' alternative was found to not provide the needed benefits, then additional future projects would need to be constructed - at additional expense to the Ameren Illinois area customers - to provide the benefits that Mr. Dauphinais' alternative failed to provide. As shown in ATXI Exhibit 11.4, if the benefits of the proposed Mt. Zion substation were not provided, ATXI would propose the following projects be considered to address the future Decatur area reliability issues: a Pana substation to Mt. Zion substation 345 kV line, new Mt. Zion substation with 345/138 kV transformer and associated substation equipment, and a Mt. Zion substation to Oreana substation 345 kV line and associated Oreana substation equipment.

Q. What do you conclude regarding Mr. Dauphinais' claim that replacing the proposed Mt. Zion substation with his reinforcements will not adversely affect the achievement of any of these estimated benefits?

A. He does not dispute that the Project will provide the stated benefits of (1) access to renewable energy, (2) access to lower cost energy, and (3) will address the future reliability issues in the Decatur area. Mr. Dauphinais' analysis is primarily focused upon addressing the future reliability issues in the Decatur area. Based upon the available information provided in Mr. Dauphinais' testimony and responses to ATXI Data Requests, I have concluded that Mr. Dauphinais' limited analysis does not demonstrate that his proposed alternative is equal to the Project in its level of assurance that the needed benefits under the same set of varied future conditions and throughout a full year of system operations will be provided

Q. Do you agree with his statement that routing the 345 kV line to Mt. Zion is a "detour to the north"?

A. No, the routing of the Project to the Decatur area was a deliberate decision in order to maximize the MVPs benefits of access to renewable resource energy, provide lower cost energy and address local reliability issues. The substations selected (including Mt. Zion) provide access to the numerous 138 kV lines which distribute the energy throughout Illinois. The Project is a more robust solution than his proposed alternative in that it provides a more reliable system in the near term while providing a better starting point for potential needed long term transmission system development.

As I stated previously, the Mt. Zion substation location would facilitate the possible future completion of a 345 kV "ring" around the entire Decatur area. While ATXI currently has

no plans for such a system configuration, the long term growth in the Decatur area may result in the need for this system reinforcement.

Q. On page 68 of his direct testimony, Mr. Dauphinais states that it is adequate to supply the Mt. Zion substation with a single 345 kV line. Is this a viable alternative?

A. No. His approach will greatly increase the exposure of the Decatur area to the loss of the Mt. Zion substation by supplying the substation with a single 30-mile long transmission line. Additionally, the options discussed by Mr. Dauphinais to use routes MCPO-A-PK and MCPO-P-PK, which have a radial 345 kV supply from Pana to Mt. Zion substation (but not Mt. Zion to Kansas) are estimated by Mr. Dauphinais to cost more than the Project. For these reasons, I do not believe that supplying the new Mt. Zion substation with a single 345 kV line is a viable alternative.

VI. RESPONSE TO DR. RAGHEB

Q. What are Dr. Ragheb's general assertions?

A. He claims generally that the Project is "undersized", is being "rushed to market" and failed to adequately consider other alternatives.

Q. What is your response?

A. I disagree. The Project is part of a MVP portfolio of projects that is the result of a multi-year, transparent and open stakeholder process which examined multiple alternatives including voltage, routes and substations. The record of this effort is available for review on the MISO website (www.midwestios.org) under the Library tab. The information would be contained in the Regional Generation Outlet Study ("RGOS") documents which were conducted between

2008 and 2010, the Multi Value Project Technical Study Task Force ("TSTF") documents, and the annual MTEP reports. These documents demonstrate that the MVP portfolio was not the result of a desire to "beat to market" other transmission lines. The MVP development process was open to all stakeholders and the merchant transmission developers and others that Mr. Ragheb lists in his testimony, who had multiple opportunities to present their alternatives and ideas for consideration. The result of the extensive, comprehensive and lengthy MISO MVP development process determined the MVP portfolio is needed to provide multiple benefits including access to renewable energy, access to lower cost energy, and address local future reliability needs. As described by Mr. Webb in his rebuttal testimony, the MVPs are correctly sized (both voltage level and current carrying capacity), provide the needed benefits, and is the overall least cost solution to provide all the listed benefits.

Q. Dr. Ragheb also asserts that the Project deliberately avoids more-modern approaches such as High Voltage Direct Current power transmission. What is your response?

A. I disagree. During the RGOS and MVP studies, High Voltage Direct Current ("HVDC") was examined as a potential option and was not selected because it is better suited for long distance point-to-point energy transfers (similar to a new generator interconnecting to the existing transmission system). HVDC is less suitable for the wide disbursement of energy needed in order to provide energy to load in accordance with the Renewable Portfolio Standards (RPS) requirements, as is the case with the Project. Additionally, HVDC is not suitable to address local reliability issues. In fact HVDC connections usually require extensive upgrades to

the existing transmission system due to the large energy injection that occurs at a single point of the transmission system.

Q. He also claims another more modern approach avoided by ATXI is the use of 765 kV AC transmission. Do you agree?

A. During the RGOS and MVP studies, 765 kV transmission was examined as a potential option and was selected for a portion of the MVP portfolio where it is the most appropriate solution. However, in general the use of 345 kV which better leverages the existing 345 kV system by addressing "gaps" such as MVP 17 (Sidney to Rising) is more appropriate in meeting the RPS requirements within the MISO region.

Q. Dr. Ragheb further argues that the Project is "deliberately" "undersized" and ATXI does not present any evidence that future growth is accounted for. What is your response to this?

A. As I describe on pages 12 through 14 of my direct testimony, the MVP Portfolio was developed and tested using a wide array of future scenarios that represent differing combinations of future economic conditions, mix of generation resources, load growth patterns, and public policies. Therefore, there is a very high level of certainty the electrical design of the MVPs including the Project will provide the needed benefits in the future regardless of what conditions may actually occur. This rigorous analysis prevents the problems that Dr. Ragheb describes from occurring.

Q. Does Dr. Ragheb have other concerns?

A. Yes. He argues that the Project is not part of a national plan for wind power conveyance, and that the Ragheb Family has identified in the publicly available literature two different concepts for a national electrical grid plan, but the Project is not compatible with or a part of any of those plans.

Q. Are there in fact "national plans" as he suggests?

A. No, there is no National Transmission Plan as suggested by Dr. Ragheb. ATXI is a member of the MISO, which is a regional transmission organization. ATXI works with MISO to develop the MTEP, which describes the transmission projects that are needed to address the regional needs of the customers within the MISO footprint, which stretches from Canada to the Gulf of Mexico. Various studies have been performed by transmission developers, government agencies, proponents of wind, solar and other renewable resources, and other special interest groups which provide their view of how the electric transmission grid could be configured. These entities and groups have many opportunities to provide input into the MTEP development process. Therefore the MISO MVP portfolio is the result of a thorough analysis to develop the best overall solution to the current and future needs of the customers within the MISO footprint.

Q. Mr. Ragheb concludes that ATXI is attempting to pre-empt its competitors on a cross-Illinois transmission line. What is his claimed basis for this assertion?

A. He claims there are eight other identified proposed projects in the preliminary stages. Three of those eight are the RITEline project, a Duke American Transmission Company project, and the Grain Belt Express Clean Line. He concludes that ATXI is attempting to pre-empt these "competitors" on a cross-Illinois transmission line with an undersized line.

Q. What is your response?

A. The MVP portfolio, of which the Project is a key component, is not in competition with any of the projects listed by Dr. Ragheb. The MISO is organized as a non-stock, not-for-profit corporation and is operated exclusively for the promotion of social welfare, in furtherance of the public policy reflected in the order of the FERC which approved the formation of the MISO and FERC Order No. 888. The MVP portfolio projects were developed through the MTEP development process and were approved as being needed by the independent MISO Board of Directors. Most if not all of the companies listed by Dr. Ragheb were participants in the MTEP and MVP Portfolio development process. If the developers and proposers of these hypothetical projects desired to have their projects considered as part of the MVP development process, they had ample opportunity to submit their information and support their projects during the analysis. The MVP portfolio was determined to be the best solution to provide needed benefits to customers in the MISO footprint under a variety of potential future scenarios. The need for the Project is fully documented in the MVP Portfolio Results and Analyses report. As part of the MVP portfolio development process, each portion of the portfolio was analyzed and an in-service date was established. The in-service dates are driven by the schedule of the public policy requirements, the benefits of access to lower cost energy, and the ability to address future local reliability issues. Rather than a rush to market, the Project in service schedule is driven by the need to meet renewable energy requirements, provide access to lower cost energy and address local reliability issues.

Q. Dr. Ragheb also implies that, within the next 30 years or less, ATXI will seek to increase the capacity of portions of the Project. Is this correct?

A. ATXI has no immediate plans to do so. However, the transmission system is constantly evolving in response to new generation technologies, changes in customer energy usage patterns and government and regulatory requirements that are enacted. Therefore, even though ATXI currently has no plans to increase the capacity of portions of the Project transmission lines, it is impossible to guarantee that changes will not occur within the next 30 years that necessitate an increase in transmission line capacity.

VII. RESPONSE TO OTHER INTERVENERS

Q. Are there other Interveners who question the need for the Project?

A. Yes, two. However, their concerns are quite general in nature, and relate primarily to a perceived lack of local electric demand. Ms. Laura Te Grotenhuis of the STPL questions why the project is needed if electric demand is flat. Similarly, MCPO witness, Ms. Cooley states that there is no need for additional electric supply to Macon County.

Q. What is your response to these types of concerns?

A. They misunderstand the nature and purpose of the Project. The Project is a key component of the MISO MVP Portfolio and is designed to provide multiple benefits to customers by enabling access to renewable energy as required by the state, provide access to lower cost energy, and address local future system reliability issues. The fact that the customer is experiencing reliable service today is a result of the transmission planning activities that occurred in previous years and decades. The Project is a key component in making sure the current high level of low cost and reliable service will be maintained in the years to come.

VIII. CONCLUSION

Q. Does this conclude your revised rebuttal testimony?

A. Yes, it does.